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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/846,846	04/30/2001	Carl M. Panasik	TI-32885	4980
23494	7590	04/21/2005	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265				PERILLA, JASON M
ART UNIT		PAPER NUMBER		
2634				

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/846,846	PANASIK ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jason M Perilla	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 05 November 2004.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) \_\_\_\_\_ is/are rejected.
- 7) Claim(s) 1-31 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    - a) All    b) Some \* c) None of:
      1. Certified copies of the priority documents have been received.
      2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
      3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

1. Claims 1-31 are pending in the instant application.

### ***Terminal Disclaimer***

2. The terminal disclaimer filed on November 5, 2004 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of Patent No. 6489908 has been reviewed and is accepted. The terminal disclaimer has been recorded.

### ***Response to Arguments***

3. The obvious type double patenting rejections set forth in the first office action dated August 23, 2004 are withdrawn according to the entry of the terminal disclaimer.

### ***Claim Objections***

4. Claims 1-31 are objected to for minor informalities.
5. The following changes are presented by the Examiner to overcome the minor informalities in the claims and make the claim language more definite:

Regarding claim 1, in line 8, "of a delta-sigma converter" should be replaced by – of the delta-sigma digital to analog converter--, in line 12, "said plurality of outputs" should be replaced by –each of said plurality of outputs--, in lines 12-13, "clocked by multi-phase clocks wherein each phase applied" should be replaced by –clocked by a multi-phase clock wherein each multi-phase clock applied--, in line 14, "delayed with" should be replaced by –delayed in phase with--, and, in line 17, "summing all output" should be replaced by –summing all outputs--.

Regarding claim 6, in line 2, "coupled to DSP" should be replaced by –coupled to a DSP--.

Regarding claim 7, in line 2, "coupled to DSP" should be replaced by –coupled to a DSP--, and, in line 3, "coupled to DSP" should be replaced by –coupled to said DSP--.

Regarding claim 8, in line 11, "of a delta-sigma converter" should be replaced by –of the delta-sigma digital to analog converter--, in line 15, "said plurality of digital-to-analog converters" should be replaced by –each of said plurality of digital-to-analog converters--, in line 16, "by multi-phase clocks wherein each phase applied" should be replaced by –by a multi-phase clock wherein each multi-phase clock applied--, in line 17, "delayed with" should be replaced by –delayed in phase with--, and, in line 20, "summing all output" should be replaced by –summing all outputs--.

Regarding claim 20, in lines 2-3, "coupled to DSP" should be replaced by –coupled to a DSP--.

Regarding claim 21, in lines 2-3, "coupled to DSP" should be replaced by –coupled to a DSP--, and, in line 3, "coupled to DSP" should be replaced by –coupled to said DSP--.

Regarding claim 22, in lines 2-3, "coupled to DSP" should be replaced by –coupled to a DSP--.

Regarding claim 29, in line 9, "said digital input" should be replaced by –a digital input--, in lines 11-12, "coupled to receive stored outputs" should be replaced by –coupled to said storage means to receive said stored outputs--, in line 12, "said plurality of digital-to-analog converters" should be replaced by –each of said plurality of digital-

to-analog converters--, in line 13, "clocked by multi-phase clocks wherein each phase applied" should be replaced by –clocked by a multi-phase clock wherein each multi-phase clock applied--, in line 14, "delayed with" should be replaced by –delayed in phase with--, and, in line 18, "summing all output" should be replaced by –summing all outputs--.

Regarding claims 30 and 31, it is suggested by the Examiner that the claims are amended according to claim 29 above to overcome minor informalities and make the claim language more definite.

***Allowable Subject Matter***

6. Claims 1-31 are indicated to contain allowable subject matter.

***Conclusion***

7. This application is in condition for allowance except for the following formal matters:

The objections above.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M Perilla whose telephone number is (571) 272-3055. The examiner can normally be reached on M-F 8-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571) 272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jason M. Perilla  
April 14, 2005

jmp



CHIEH M. FAN  
PRIMARY EXAMINER